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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/539,326

Applicant(s)

VAN HOUTEN, HENDRIK

Examiner

ANEETA PATANKAR

Art Unit

4134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/15/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date 5/31/07

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1, 4-6, 9, 17 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,493,312 B1 to *Negishi et al.* in view of U.S. Patent No. 6,706,358 to *McDaniel et al.*

As to **claim 1**, *Negishi* discloses an optical information storage unit comprising: an information layer comprising a plurality of data areas, each data area being arranged to emit light when illuminated by light at a predetermined wavelength (Fig. 6, column 10, lines 9-34).

Negishi is deficient to disclosing a readout layer comprising a plurality of optical apertures, each optical aperture being arranged to image substantially only the near field of light emitted from a respective data area.

However, *McDaniel* discloses a readout layer (204) comprising a plurality of optical apertures, each optical aperture being arranged to image substantially only the near field of light emitted from a respective data area (Fig. 3, column 12, lines 5-33).

Negishi and *McDaniel* are analogous art because they are from the same field of endeavor with respect to layers on an optical medium.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to create an optical medium that has an information layer as well as a readout layer. The suggestion/motivation would have been to align the magnetic domains in the readout layer. (*McDaniel*, column 12, lines 34-39).

As to **claim 4**, *McDaniel* discloses an information storage unit, wherein said information layer has a data areas per unit area, and said readout layer has b optical apertures per unit area, where $a > b$ (Fig. 5a, column 12, lines 25-33). In addition, the same motivation is used as the rejection for claim 1.

As to **claim 5**, *Negishi* discloses an information storage unit, wherein the light emitted from each data area when illuminated corresponds to the light transmitted through the aperture.

Negishi is deficient to disclosing an information storage unit, wherein each data area comprises an optical aperture.

However, *McDaniel* discloses an information storage unit, wherein each data area comprises an optical aperture (Fig. 3, column 12, lines 5-33). In addition, the same motivation is used as the rejection for claim 1.

As to **claim 6**, *Negishi* discloses an information storage unit, wherein each data area comprises a reflector, the light emitted from each data area comprising light reflected from the reflector when the respective data area is illuminated (Fig. 2, column 2, lines 44-55).

As to **claim 9**, *Negishi* discloses an optical information storage unit, wherein at least one of said data areas is modifiable by a predetermined process so as to alter the optical characteristics of the data area such that the intensity of light emitted by the data area when illuminated will be altered (Fig. 3, column 10, lines 37-57).

As to **claim 17**, *Negishi* discloses a method of manufacturing an optical information storage unit, the method comprising the steps of: providing an information layer comprising a plurality of data areas, each data area being arranged to emit light when illuminated by light at a predetermined wavelength (Fig. 6, column 10, lines 9-34).

Negishi is deficient to disclosing a method of manufacturing an optical information storage unit, the method comprising the steps of: providing a readout layer comprising a plurality of optical apertures, the readout layer being located at a distance from the information layer such that each optical aperture is arranged to image substantially only the near field of light emitted from a respective data area.

However, *McDaniel* discloses a method of manufacturing an optical information storage unit, the method comprising the steps of: providing a readout layer comprising a plurality of optical apertures, the readout layer being located at a distance from the information layer such that each optical aperture is arranged to image substantially only the near field of light emitted from a

respective data area (Fig. 3, column 12, lines 5-33). In addition, the same motivation is used as the rejection for claim 1.

As to **claim 18**, *Negishi* discloses a method of writing data to an optical information storage unit, the information storage unit comprising an information layer comprising a plurality of data areas, each data being modifiable so as to emit light when illuminated by the light of predetermined wavelength (Fig. 6, column 10, lines 9-34); the method comprising: selectively modifying at least one data area so as to emit light at a predetermined intensity when illuminated, the predetermined intensity being indicative of the information stored by the respective data area (Fig. 3, column 10, lines 37-57).

Negishi is deficient to disclosing a readout layer comprising a plurality of optical apertures, each optical aperture being arranged to image substantially only the near field of light emitted from the respective data area.

However, *McDaniel* discloses a readout layer comprising a plurality of optical apertures, each optical aperture being arranged to image substantially only the near field of light emitted from the respective data area (Fig. 3, column 12, lines 5-33). In addition, the same motivation is used as the rejection for claim 1.

3. **Claims 2, 3, 10-16 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,493,312 B1 to *Negishi et al.* in view of U.S. Patent No. 6,706,358 to *McDaniel et al.* in further view of U.S. Patent Pub. No. 2003/0035361 A1 to *Knight et al.*

As to **claim 2**, *Negishi* as modified are deficient to disclosing an information storage unit, where both the readout layer and the information layer are planar and substantially parallel, the separation between the information layer and the readout layer being less than the wavelength of emitted light.

However, *Knight* discloses an information storage unit, where both the readout layer and the information layer are planar and substantially parallel, the separation between the information layer and the readout layer being less than the wavelength of emitted light (Fig. 28D, paragraph 250).

Negishi, *McDaniel et al.* and *Knight* are analogous art because they are from the same field of endeavor with respect to layers on an optical medium.

At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to create an optical medium where the information layer and the readout layer are parallel to each other. The suggestion/motivation would have been in order to achieve a higher resolution while reading the apertures (*Knight*, paragraph 250).

As to **claim 3**, *Negishi as modified* are deficient to disclosing an information storage unit, wherein the information layer is movable within a plane substantially parallel to the readout layer.

However, *Knight* discloses an information storage unit, wherein the information layer is movable within a plane substantially parallel to the readout layer (Fig. 28F, Paragraph 254). In addition, the same motivation is used as the rejection for claim 2.

As to **claim 10**, *Negishi* as modified are deficient to disclosing an information storage unit, the unit further comprising: a light source arranged to provide light at the predetermined wavelength for illumination of the data areas; and an optical sensor comprising a plurality of light sensing areas, the optical sensor being arranged to detect the near field of light imaged by each respective optical aperture.

However, *Knight* discloses an information storage unit, the unit further comprising: a light source arranged to provide light at the predetermined wavelength for illumination of the data areas (Fig. 20A, paragraphs 182-183); and an optical sensor comprising a plurality of light sensing areas, the optical sensor being arranged to detect the near field of light imaged by each respective optical aperture (Fig. 28G, paragraph 270). In addition, the same motivation is used as the rejection for claim 2.

As to **claim 11**, *Negishi* as modified are deficient to disclosing a reader for an optical information storage unit, the reader being arranged to removably receive an optical information storage unit, the reader comprising: a light source arranged to provide light at the predetermined wavelength for illumination of the data areas; and an optical sensor comprising a plurality of light sensing areas, the optical sensor being arranged to detect the near field of light imaged by a respective optical aperture.

However, *Knight* discloses a reader for an optical information storage unit, the reader being arranged to removably receive an optical information storage

unit (Fig. 33A-33H, paragraphs 443-446), the reader comprising: a light source arranged to provide light at the predetermined wavelength for illumination of the data areas (Fig. 20A, paragraphs 182-183); and an optical sensor comprising a plurality of light sensing areas, the optical sensor being arranged to detect the near field of light imaged by a respective optical aperture (Fig. 28G, paragraph 270). In addition, the same motivation is used as the rejection for claim 2.

As to **claim 12**, *Negishi* as modified are deficient to disclosing a reader further comprising writing means arranged to controllably alter the optical properties of the data areas, so as to write data to the data areas.

However, *Knight* discloses a reader further comprising writing means arranged to controllably alter the optical properties of the data areas, so as to write data to the data areas (Paragraphs 8-9). In addition, the same motivation is used as the rejection for claim 2.

As to **claim 13**, *Negishi* is deficient to disclosing a reader further comprising movement means arranged to move the position of the information layer relative to the position of both the readout layer and the optical sensor.

However, *Knight* discloses a reader further comprising movement means arranged to move the position of the information layer relative to the position of both the readout layer and the optical sensor (Paragraph 16). In addition, the same motivation is used as the rejection for claim 2.

As to **claim 14**, *Negishi* as modified are deficient to disclosing an information processing system comprising at least one of: an optical information storage unit.

Knight discloses an information processing system comprising at least one of: an optical information storage unit (Fig. 3, paragraph 94). In addition, the same motivation is used as the rejection for claim 2.

As to **claim 15**, *Negishi* discloses a method of reading information from an optical information storage unit, the information storage unit comprising: an information layer comprising a plurality of data areas, each data area being arranged to emit light when illuminated by the light at a predetermined wavelength (Fig. 6, column 10, lines 9-34); the method comprising: illuminating at least one data area with light at the predetermined wavelength (Fig. 6, column 10, lines 9-34).

Negishi is deficient to disclosing a method of reading information from an optical information storage unit, the information storage unit comprising: a readout layer comprising a plurality of optical apertures, each optical aperture being arranged to image substantially only the near field of light emitted from a respective data area; the method comprising detecting the optical intensity of light imaged by the respective optical aperture that corresponds to the illuminated data area.

However, *McDaniel* discloses a method of reading information from an optical information storage unit, the information storage unit comprising: a

readout layer comprising a plurality of optical apertures, each optical aperture being arranged to image substantially only the near field of light emitted from a respective data area (Fig. 3, column 12, lines 5-33). In addition, the same motivation is used as the rejection for claim 1.

However, *Knight* discloses the method comprising detecting the optical intensity of light imaged by the respective optical aperture that corresponds to the illuminated data area (Fig. 28G, paragraph 270). In addition, the same motivation is used as the rejection for claim 2.

As to **claim 16**, *Negishi* as modified are deficient to disclosing a method of reading information from an optical information storage unit, the method further comprising the step of: moving the information layer within a plane substantially parallel to the readout layer, such that an optical aperture previously imaging a first data area images a second, different data area within the information layer.

However, *Knight* discloses a method of reading information from an optical information storage unit, the method further comprising the step of: moving the information layer within a plane substantially parallel to the readout layer, such that an optical aperture previously imaging a first data area images a second, different data area within the information layer (Fig. 28D, paragraph 250). In addition, the same motivation is used as the rejection for claim 2.

As to **claim 19**, *Negishi* as modified are deficient to disclosing a method of manufacturing a reader for an optical information storage unit, the method comprising: providing a locator unit arranged to removably receive an optical

information storage unit; providing a light source arranged to provide light at the predetermined wavelength for illumination of the data areas of the storage unit; and providing an optical sensor comprising a plurality of light sensing areas, the optical sensor being arranged to detect the near field of light imaged by each respective optical aperture of the storage unit

Knight discloses a method of manufacturing a reader for an optical information storage unit, the method comprising: providing a locator unit arranged to removably receive an optical information storage unit (Fig. 33A-33H, paragraphs 443 and 450); providing a light source arranged to provide light at the predetermined wavelength for illumination of the data areas of the storage unit (Fig. 28G, paragraph 270); and providing an optical sensor comprising a plurality of light sensing areas, the optical sensor being arranged to detect the near field of light imaged by each respective optical aperture of the storage unit (Fig. 28G, paragraph 270). In addition, the same motivation is used as the rejection for claim 2.

4. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,493,312 B1 to *Negishi et al.* in view of U.S. Patent No. 6,706,358 to *McDaniel et al.* in further view of U.S. Patent Pub. No. 2002/0098446 A1 to *Alperovich et al.*

As to **claim 7**, *Negishi* as modified are deficient in disclosing an information storage unit, wherein each area comprises a fluorescent material, the

light emitted from each data area comprising the light emitted by the material as it fluoresces, the illuminating light acting to excite the fluorescent material.

However, *Alperovich* discloses an information storage unit, wherein each area comprises a fluorescent material, the light emitted from each data area comprising the light emitted by the material as it fluoresces, the illuminating light acting to excite the fluorescent material (Paragraph 23).

Negishi, McDaniel et al. and *Alperovich* are analogous art because they are from the same field of endeavor with respect to layers on an optical medium.

At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to create an optical medium with different layers, one of which is a fluorescent layer. The suggestion/motivation would have been in order to absorb reading radiation of the laser and emitting fluorescent light (*Alperovich*, paragraph 23).

5. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,493,312 B1 to *Negishi et al.* in view of U.S. Patent No. 6,706,358 to *McDaniel et al.* in further view of U.S. Patent No. 6,144,631 to *Kawano*.

As to **claim 8**, *Negishi* as modified are deficient in disclosing an information storage unit, wherein an optically transmissive material is place between the information layer and the readout layer, the optically transmissive material has a refractive index greater than 1 at the wavelength of the emitted light.

However, *Kawano* discloses an information storage unit, wherein an optically transmissive material is placed between the information layer and the readout layer, the optically transmissive material has a refractive index greater than 1 at the wavelength of the emitted light (Column 2, lines 14-40).

Negishi, McDaniel et al. and *Kawano* are analogous art because they are from the same field of endeavor with respect to layers on optical mediums.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to create an optical medium with multiple layers where there is a light transmitting layer. The suggestion/motivation would have been in order to allow light to be applied through the layer to the readout layer (*Kawano*, column 2, lines 14-40).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANEETA PATANKAR whose telephone number is (571)272-9773. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, LunYi Lao can be reached on (571)272-7671. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4134

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Aneeta V. Patankar
Patent Examiner
Art Unit 4134

/AVP/

/LUN-YI LAO/
Supervisory Patent Examiner, Art Unit 4134